

# REMARKS

## I. New Claims 23 to 26

New independent claims 23 and 25 claim detailed methods according to the invention for making high quality optical components by precision pressing glass bodies. Claim 23 claims the embodiment of the method shown in figure 1 with the detailed steps, which are explained in applicants' specification on page 8, line 22, to page 10, line 2. Claim 25 claims the embodiment of the method shown in fig. 2 with the detailed steps, which are explained in applicants' specification on page 10, line 3, to page 10, line 18. Thus basis for the steps of the new claims appears on pages 8 to 10 of the originally filed specification.

The method of claim 25 differs from that of claim 23 in that prior to application of the pressure in the first press stage and after the initial heat up of the mold in which the glass body and press mold reach a common temperature the temperature of the press mold is rapidly dropped below the sticking temperature (although that of the glass body lags and remains above the sticking temperature). Only after that does the first press stage begin.

The quantitative statement regarding the high quality of the optical component formed from the glass body by the methods claimed in claims 23 to 26 has basis in the applicants' originally filed specification, page 4, lines 15 to 18.

Dependent method claims 24 and 26 contain subject matter from

dependent claims 2 and 3, which defines the type of voltage applied.

The prevention of adherence of the glass body to the parts of the press mold during the press stages is an essential and important feature of the method, but the dependence of the pressure and temperature in the various press stages as defined in new claims 23 to 26 are important features of the invention that contribute to the high quality of the resulting optical component. These other features of the applicants' method should not be ignored during examination of the claims.

Ribes, et al, does not disclose the detailed features of the methods of claims 23 to 26 for making the optical component, which involve the dependence of pressure and temperature on time, which result in an optical component made to specifications with deviations of less than 100 nm.

## **II. Indefiniteness Rejection**

Claims 1 to 11 were rejected under 35 U.S.C. 112, second paragraph, for indefiniteness.

The wording of claim 1, step d), has been changed to avoid using the terminology "at the latest after". It was applicants' intention to state that the pressing force is applied to the glass body when the temperature of the glass body matches or equals the temperature of the press mold. First in preferred embodiments the press mold is heated by the heater to a given temperature, which occurs rapidly because the press mold parts are made of metal, and then

the temperature of the glass body, which has a much lower thermal conductivity, will rise somewhat more slowly until it reaches that temperature.

The wording of step d) of claim 1 now states that the pressing force is applied “at the latest at a temperature of the glass body in the press mold that matches a temperature of the press mold”. In other words the pressing force is applied when the temperature of the glass body reaches the temperature of the press mold or before the time at which the two temperatures are equal to each other.

The change in claim 1, step d), establishes a definite range of times (less than or equal to the time at which temperature matching occurs) during which the pressure is applied. This corrects the indefiniteness problem in claim 1.

The term “unsymmetrical A.C. voltage” in claims 3 and 9 has been changed to “asymmetrical A.C. voltage”. It is well known in the electrical arts that an asymmetrical A.C. voltage is an A.C. voltage with a D.C. offset, in other words an electrical voltage comprising an A.C. voltage component and a D.C. voltage component. The term “asymmetrical A.C. voltage” seems to be a term that is used more in the electrical arts than “unsymmetrical A.C. voltage” to describe this voltage. See, for example, U.S. Patent 6,563,411 “Current Transformer with Direct Current Tolerance”, especially column 6, lines 15 to 20. This or other references could be filed to support the definition of this term.

Claims 4,5 and 10,11 have been amended to provide a more definite wording for these method steps.

For the foregoing reasons and because of the changes in claims 1 to 11,

withdrawal of the rejection of claims 1 to 11 under 35 U.S.C. 112, second paragraph, for indefiniteness is respectfully requested.

### **III. Anticipation Rejection Based on Ribes, et al**

#### **A. Claims 1 to 11**

Claims 1 to 11 were rejected as anticipated under 35 U.S.C. 102 by Ribes, et al. Note that claims 1 and 6 are independent method claims.

The applicants' claimed method of claim 1 includes the following steps that are not disclosed in Ribes, et al:

“b) receiving a glass body heated above a shaping temperature in said press mold”; and “d) applying a pressing force to the glass body at the latest at after a temperature of the glass body in the press mold that matches a temperature of the press mold”.

Ribes, et al, do not disclose the limitation that a glass body heated above the shaping temperature is received in the press mold.

Ribes, et al, do not disclose the limitation that the pressing force is not first applied to the glass body at a time later than the time at which the temperature of the glass body matches that of the press mold.

As to claim 6, the same can be said of step b) of claim 6. Also Ribes, et al, do not disclose or suggest the limitation that the pressing force is to be applied “after exceeding the sticking temperature”.

It is well established that each and every limitation of a claimed invention

must be disclosed in a single prior art reference in order to be able to reject the claimed invention under 35 U.S.C. 102 (b) based on the disclosures in the single prior art reference. See M.P.E.P. 2131 and also the opinion in *In re Bond*, 15 U.S.P.Q. 2nd 1566 (Fed. Cir. 1990).

For the foregoing reasons withdrawal of the rejection of claims 1 to 11 as anticipated under 35 U.S.C. 102 by Ribes, et al, is respectfully requested.

### **B. New Claims 23 to 26**

New claim 23 claims the special embodiment of applicants' figure 1 with the definite pressure and temperature profiles, i.e. with the dependencies of pressure and temperature on time as shown in figure 1. These particular dependencies are neither disclosed in nor suggested by Ribes, et al, and thus Ribes, et al, do not anticipate claim 23. They contribute to the excellent high quality of the resulting optical component.

For example, Ribes, et al, neither disclose nor suggest the features of step e) of claim 23, namely that, after the glass body and the press mold have reached a common temperature above the sticking temperature, the temperature of the press mold is kept constant while voltage continues to be applied and at that time point the pressing of the glass body is initiated. Ribes, et al, also do not teach the features of steps f to h, which contribute to obtaining the precise pressed optical component of high quality as expressed quantitatively in the last several lines of claim 23.

New claim 25 claims the special embodiment of applicants' figure 2 with the definite pressure and temperature profiles, i.e. with the dependencies of pressure and temperature on time as shown in figure 1. These particular dependencies are neither disclosed in nor suggested by Ribes, et al, and thus Ribes, et al, do not anticipate claim 25. The same detailed statements can be made with respect to steps e) to l) of claim 25.

For the foregoing reasons it is respectfully submitted that new claims 23 to 26 should **not** be rejected as anticipated under 35 U.S.C. 102 by Ribes, et al, or rejected as obvious under 35 U.S.C. 103 over Ribes, et al.

Should the Examiner require or consider it advisable that the specification, claims and/or drawing be further amended or corrected in formal respects to put this case in condition for final allowance, then it is requested that such amendments or corrections be carried out by Examiner's Amendment and the case passed to issue. Alternatively, should the Examiner feel that a personal discussion might be helpful in advancing the case to allowance, he or she is invited to telephone the undersigned at 1-631-549 4700.

In view of the foregoing, favorable allowance is respectfully solicited.

Respectfully submitted,  
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